

In the Specification:

Please substitute the following paragraphs for the corresponding paragraphs beginning at the indicated location in the specification as originally filed.

Page 2, line 3+:

The only feasible solution to reducing data processing time with given data processing resources is to reduce data volume. ~~and it~~ It is often possible to greatly reduce the volume of image or video data without significantly perceptible degradation of the image(s) and sophisticated and flexible standards have been developed which support any arbitrary degree of image data compression with minimized loss of image fidelity for the volume of data that can be accommodated. For example, the Joint Photographic Experts Group (JPEG) has developed a widely adopted standard for compression of still image data. Similarly, the ~~Motion~~ Moving Picture Experts Group (MPEG) has developed a standard employing similar principles to the JPEG standard but additionally exploiting frame-to-frame redundancy to accommodate the more stringent time requirements for processing of video data. However, efficiency of compression processing is not guaranteed under either standard.

Page 10, line 11+:

These four byte sequences of values are read out of buffers 16, 18 simultaneously and in parallel to the P inputs of vertical filter 20. Since the data is now one hundred twenty-eight bits (sixteen bytes) wide, the data transfer rate is reduced (by half in this case) to allow additional processing time in the vertical filter; principally the multipliers 22a - 22d which are preferably of an unsigned eight bit by signed nine bit configuration. That is, sixteen bits of luminance and chrominance data (e.g. eight bits each) is output to a

single input of each multiplier that has, in this case, four inputs in order to filter over a vertical group of four pixels to obtain a filtered value, Z, corresponding to a location in the original image data having a resolution corresponding to a single pixel. Eight vertical filters 20 correspond to the 128 bit width of the data ~~(and an MPEG standard image block)~~.

Page 17, line 31+:

As with the arrangement of Figure 1, data is provided from pixel bus 12 to buffer 14 and separated into luminance and chrominance data as indicated at 16, 18, although, as indicated above, physical separation or additional buffering is not required. Hybrid vertical filter 110 is also of somewhat similar architecture to that of Figure 1 but may also contain some gating structures to control input of image data and/or V, C and/or VC coefficients and/or output, such as the blocking of converted chrominance values as discussed above or, alternatively, using the V coefficients instead of the VC coefficients for alternate lines of image data. Details of such gating ~~is~~ are not important to the principles or successful practice of the invention. As demonstrated above, all that is necessary to achieve the meritorious effects of the invention is to supply the combined filter coefficients $V_N C_N$ to the filter along with the luminance and chrominance data to obtain data which has been both vertically spatial filtered and vertically chrominance converted. Any desired control of the filter circuit in accordance with the invention can be done in numerous ways that will be evident to those skilled in the art in view of the above discussion.